

Urara MIZUSHIMA*: **On *Dicranum Drummondii* and *D. elatum***

(Critical notes on mosses 7)**

水島うらら*: *Dicranum Drummondii* と *D. elatum* について

(蘚類寸評 7)**

Dicranum elatum Lindb. and *D. Drummondii* C. Muell. were called at first *D. robustum* Blytt (1847) based on the specimens collected by Blytt himself in Norway and by Drummond in Canada. *D. robustum* was however, a later homonym of *D. robustum* Hook. f. & Wils. (1844)¹⁾, so C. Müller gave it a new name, *D. Drummondii*, in 1848. At that time he added the words "forma minor" at the end of citation of the Canadian plant. After that Lindberg (1865) distinguished the Norwegian plant from the Canadian one. He gave a new name *D. elatum* Lindb. for the Norwegian plant and retained the name *D. Drummondii* C. Muell. for the Canadian plant. Lindberg's amendment has been followed by subsequent workers for more than a hundred years. In 1962, Wijk and Margadant²⁾ united again these two plants as one and the same species under *D. Drummondii* in their Index Muscorum. But more recent authors, for example, Takaki (1964)³⁾ and Bardunov (1969)⁴⁾, used the name *D. elatum* in their papers without discussion. Since I reported Mt. Shibutsu in Gumma Pref. as the southernmost locality of *D. elatum* for Eurasia in 1959, my interest has been pointed to this species. When I reexamined the specimens of *Dicranum* in late K. Sakurai's collections, I found out a specimen of this species. It was collected at Omachi in Nagano Pref. in central Honshu (36°28'N and 137°50'E), and this locality shows a southern extension of the range. Besides this, I felt need to review the identity of *D. Drummondii* and *D. elatum*.

Among the species of the genus *Dicranum*, *D. Bonjeanii*, *D. polysetum*, *D. undulatum* (= *D. Bergeri*), *D. spurium*, *D. elatum* and *D. Drummondii* have transversely undulate leaves. Among them, *D. polysetum*, *D. elatum*

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and *D. Drummondii* have fascicled setae. In *D. polysetum* the upper leaf-cells are narrowly elongate, while in *D. elatum* and *D. Drummondii* they consist of short cells. The latter two have following common characters:

- 1) Stem densely radiculose, scarcely branched.
- 2) Leaves oblong-lanceolate, long acuminate.
- 3) Leaf-cells quadrate or short-rectangular, irregularly arranged and mamilllose in the upper part, irregularly fusiform in the middle, and oblong in the lower part.

4) Costa spinosely serrate on the back in the upper part. These characters are worthy to lump the two entities in one species. So, I agree essentially with Wijk and Margadant to do so. Examining the specimens from Scandinavia, Sachalin and N. America, there exist some gap to distinguish *D. Drummondii* from *D. elatum* as follows:

<i>D. elatum</i>	<i>E. Drummondii</i>
1) Plant (stem with leaves) about 8-10 mm wide when dry giving bigger appearance.	About 5-7 mm wide when dry giving smaller appearance.
2) Leaves lustrous.	Leaves opaque.
3) The leaf length by width is about 6.5-6.7:1.	The ratio of the same is 7.0-7.5:1.
4) Wall of median leaf-cells rather irregularly thickened.	The same uniformly thickened.
5) Spine of the dorsal surface of the midrib is not so conspicuous in the lower half.	The same is conspicuous below the middle.

These two types of plants have clearly their range of distribution respectively. The *Drummondii*-type is restricted to North America, and *elatum*-type is widely but disjunctively spread over northern Eurasia east to Sachalin and Japan. So, the two types are better to be considered as subspecies of one and the same species.

Dr. N. Takaki gave a description and illustration to the Japanese plants (1964)³⁾, but the result of examination of the specimens on which he based revealed that they were *D. undulatum*. Among the specimens he cited under *D. elatum*, only one specimen from Sachalin (Shikka, Noguchi 13228)

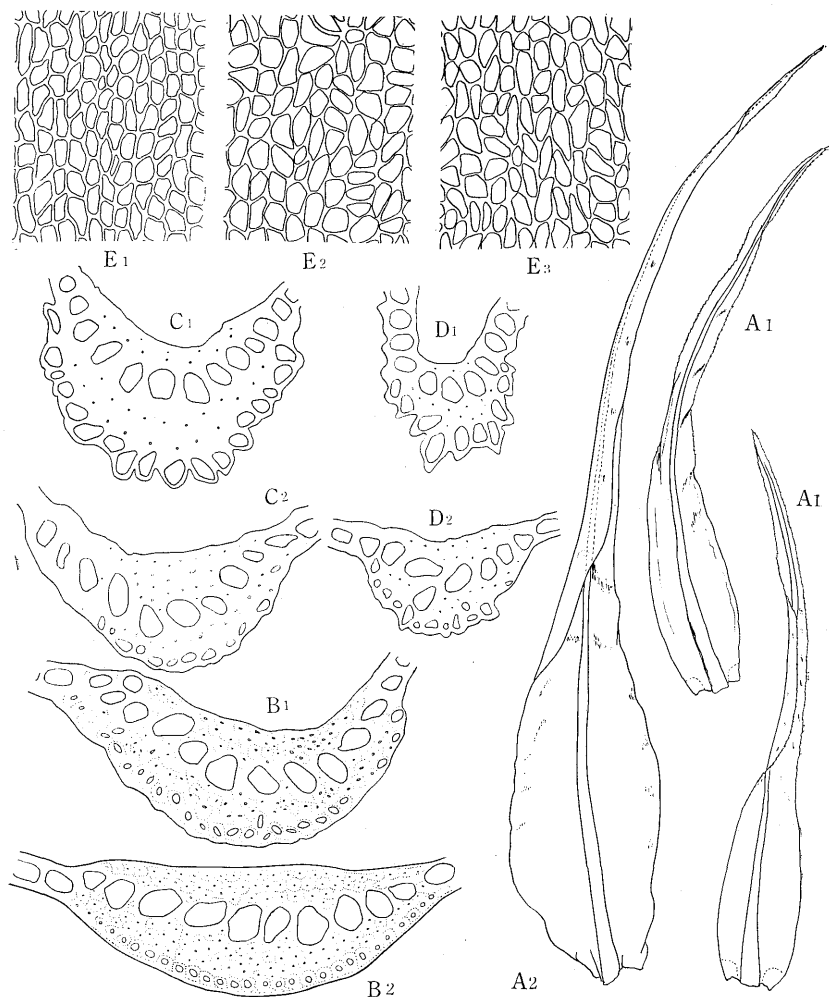


Fig. 1. A1···E1: *Dicranum Drummondii* subsp. *Drummondii*. A2···E2, E3: *D. Drummondii* subsp. *elatum* A1,2: Leaves, $\times 9$. B1,2: Cross-section of the basal part of midrib, $\times 310$. C1,2: Cross-section of the middle part of midrib, $\times 310$. D1,2: Cross-section of the upper part of midrib, $\times 310$. E1,2,3: Cells in the upper-middle of leaf, $\times 310$. (A1···E1 drawn from the specimen from Svartberget, Degerfors sn, Västerbotten, Sweden-NY; A2···E2 drawn from the specimen from Cedar Swamp, Ontario, Canada-NY 47; E3 drawn from the specimen from Omachi, Nagano Pref., Japan-MAK)

was the true *D. elatum*, and the others were a rather aberrant form of *D. undulatum*. This form of *D. undulatum* has often mamilllose cells in the upper part of lamina, and Dr. K. Sakurai once called it *D. pseudobergeri*⁵⁾. If the specimens are fertile, it is easy to distinguish *D. Drummondii* from *D. undulatum* by the fascicled setae of the former against the solitary one of the latter. When sterile, however, it is rather difficult to distinguish each other, but the uppermost lamina-cells are very small in *D. undulatum* and they are apparently larger in *D. Drummondii*.

The Japanese plants of *D. elatum* are slenderer than the Scandinavian plants, but the details of the leaf structure agree well with them. In Japan the subsp. *elatum* is represented barely by two collections, viz. Mt. Shibutsu, Oze, Tone-gun, Gumma Pref., 36°54'N and 139°10'E (cf. U. Mizushima 1959), and Omachi, Kita-azumi-gun, Nagano Pref., 36°28'N and 137°50'E (S. Hirabayashi in MAK).

Finally the nomenclature becomes as follows:

Dicranum Drummondii C. Muell.

subsp. **Drummondii**.

D. Drummondii C. Muell. Syn. Musc. 1: 356 (1848), emend. Lindb. et sensu str.

subsp. **elatum** (Lindb.) U. Mizushima, stat. nov.

D. elatum Lindb. in Bot. Not. 1865: 78 (1865)—Noguchi in Journ. Jap. Bot. 14: 399 (1938)—U. Mizushima in Journ. Jap. Bot. 34: 352 (1959)—Takaki in Journ. Hatt. Bot. Lab. 27: 93 (1964), quoad pl. e Sachal. and excl. descr. et fig. quae *D. undulatum*.

D. robustum Blytt in B.S.G. Bryol. Eur. fasc. 37-40, Monogr. 43, t. 84 (1847), non Hook. f. et Wils. 1844.

var. **alpinum** (Hag.) Wijk et Marg. in Taxon 14: 196 (1965); Ind. Musc. 5: 538 (1969).

D. elatum var. *alpinum* Hagen in Kongl. Vid. Selsk. Skrift. 1914: 177 (1915).

Dicranum undulatum Schrader ex Bridel in Journ. für Bot. 1800 (2): 294 (1801).

D. elatum Lindb. sensu Takaki, l. c. (1964).

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References

- 1) Hook, F. and Wils., London Journ. Bot. 3: 542 (1844).
- 2) Wijk, R. Van Der and Margadant, W.D., Index Muscorum 2: 69, Utrecht (1962).
- 3) Takaki, N. in Journ. Hatt. Bot. Lab. 27: 93 (1964).
- 4) Bardunov, L. V., The handbook of the mosses of central Siberia, 102 Leningrad (1969).

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Dicranum Drummondii (1848) と *D. elatum* (1865) は最初 *D. robustum* Blytt (1847) として発表され、ノルウェー (Blytt 採集) とカナダ (Drummond 採集) の標本が引用されていた。この名に先行名があった為、*D. Drummondii* C. Muell. の名が与えられた。1865年に Lindberg はこれをアメリカ産の *D. Drummondii* とノルウェー産の *D. elatum* Lindberg とに区別した。この考えは1962年に Wijk と Margadant によって再び二種が合一されるまで多くの人に認められて来た。筆者は牧野標本館所蔵の櫻井コレクションの中から、スカンジナビア産の *D. elatum* によく一致する標本を見出した。その産地は長野県北安曇郡大町で、先に筆者が報告した群馬県尾瀬の至仏山よりも更に南である。この報告をするに併せて *D. Drummondii* と *D. elatum* との関係について再検討をした。その結果、両種は種を分つ程の形質上の相違は認められないが、北米産のものと欧亜産のものとの間には細かい点で相違がある事が解った。即ち欧亜のものは植物体が壮大で、葉をつけた茎は 8-10 mm 程あり、葉には光沢があって大形で先は長く尖り、巾と長さの比は約 1: 6.5-6.7、中央脈背の棘状突起は葉の上半に限られ、殊により特徴となるのは葉の中上部に膜の不整に肥厚した一群の細胞が明らかに見られる事である。これに反し北米産のものでは植物体はやゝ小さく、葉をつけた茎は巾約 5-7 mm で光沢がなく、葉は小形で全体に巾せまく先も欧亜産のもの程長くならない。葉の巾と長さの比は 1: 7.0-7.5 である。又中央脈背の棘状突起は比較的下部から見られ、鋭く、中上部の細胞の膜は一樣に肥厚し、時に不整に肥厚するものがあるが欧亜産のものに比して量が少い。この相違は比較的是っきりしており、地域的にも不連続であるので、欧亜産のものと北米産のものは

亜種の関係と認めるのが妥当と思う。

高木博士 (1964) は本邦のシッポゴケ属の再検討をされたが、*D. elatum* の図と記載文を作られた標本は *D. undulatum* (*D. Bergeri*) の葉が鋭尖する一形である。*D. undulatum* では葉背はおおむね滑らかであるが、時には乳頭のあるものもある。この型はかつて櫻井博士が *D. pseudobergeri* と名づけられたものである。高木博士が引用された標本の中、樺太敷香のものは *D. Drummondii* ssp. *elatum* である。

○シロバナミズギボウシ (小池常雄) Tuneo KOIKE: A white-flowered form of *Hosta longissima* Honda var. *brevifolia* F. Maekawa.

ミズギボウシは、愛知県西南部の湿地帯に自生していることが知られている。遠江地方の浜名湖周辺に点在する湿地帯にも、ミズギボウシの群生が見られ、8~9月に淡暗紫色の花を開く。1969年9月静岡県浜名郡湖西町地内の植物調査をした際、ミズギボウシの群落中に花被が白色のものを数株採集した。東京大学名誉教授本田正次博士の御意見に従い、新品種として記録する。自生地は、海拔 30 m の南斜面で、日射が強い湿潤地で PH 値 6.7 である。 (浜松誠心高等学校)

***Hosta longissima* Honda var. *brevifolia* F. Maekawa form. *albiflora* Honda et Koike form. nov.**

Flores albi, cetera ut in typo.

Nom. Jap. Shirobana-mizu-gibôshi (nov.)

Hab. Honshû; Kosai-chô, Hamanagun, Shizuoka pref. (Sept. 10, 1969, T. Koike-type in Herb. Tokyo Univ.)

□東京都：続 小笠原諸島自然景観調査報告書，B5，写真地図多数，250頁，30 3，1970。東京都建設局公園緑地部発行，前年刊行された同一書名のものと続篇で，内容は調査の経過及び概括，小笠原諸島の地形地質，植物，動物，海中生物等の5部より成り，植物部門は津山尚氏が担当し，附記として硫黄島，西之島にふれていて66頁を領し，ムニンビャクダン，オガサワラツツジ，ワダンノキなどの線図，アツバコ，シマカナメモチ，コハマジンチョウ，オガサワラシコウウラン，ムニンノボタン，シマザクラなどのカラー写真の他約30の植物や景観の白黒写真があるとともに，現在の総目録がある。要するに多年にわたる同氏の小笠原諸島の総知識の集積で，現在における完全な目録である。定価はかいてないが，非売品としてもいないから適当な手つづきをすれば手に入ると思われる。 (久内清孝)